Plant Healthcare Consultants

American Society of Consulting Arborist ▪ International Society of Arboriculture
Massachusetts Arborist Association ▪ Massachusetts Tree Wardens and Foresters Association
TREE INVENTORIES ▪ APPRAISALS ▪ DIAGNOSIS ▪ TREE RISK ASSESSMENTS

Tree Evaluation – 362 Border Road, MA

Prepared for:

Vanni Bucci
362 Border Road
Concord, MA 01742

Prepared by:

Daniel E. Cathcart
Certified Consulting Arborist
Plant Healthcare Consultants
76 Stony Brook Rd
Westford, MA 01886

September 28, 2020

Carl A. Cathcart ▪ Daniel E. Cathcart
Plant Healthcare Consultants, Partnership
76 Stony Brook Rd. Westford, MA. 01886 ▪ Phone (978) 764-6549 ~ (617) 237-7695
carl.phc@verizon.net ▪ dan.cathcart@gmail.com ▪ www.treeconsultant.com

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Summary

On September 21, 2020 I met Mr. Vanni Bucci at his residence located at 362 Border Road, Concord, MA at approximately 9:30 am.

Mr. Bucci has concerns about several large trees and the risks they pose to his house, property and family. Mr. Bucci would like to remove 7 trees; 6 Pinus strobus (White pine) and 1 dead Ulmus americana (American elm) of various sizes to reduce risk of damage to his property.

The Town of Concord's Conservation Commission informed Mr. Bucci that the trees that she wants to remove are in a Wetland Protection Act (WPA) Buffer Zone. As such, she needs to submit the necessary documents to receive approval to proceed with the work.

I inspected the 7 trees around Mr. Bucci's property. It is my opinion that the trees do pose a potential risk to Mr. Bucci's house, property and family. I arrived at this opinion upon inspecting the tree's health, location, anchorage, potential risk points and defects. My observations are included in this report.

Additionally, there was a 4 recent failure of a similar tree on the property. In this instance a tree struck a house causing significant damage.

Introduction

Mr. Bucci called my office on September 14, 2020 to inquire about retaining my services as a Consulting Arborist. Mr. Bucci is planning to remove some trees on his property at 362 Border Road, Concord, MA 01742. The trees are in the designated buffer zone of protected wetlands. Mr. Bucci is seeking independent, third party assistance, in procuring the necessary documentation to proceed with his tree removal plans. An appointment was scheduled for September 21, 2020 at 362 Border Road, Concord, MA at 9:30 am to discuss, inspect and gather data for creating this report.

Background & History

The Natural Resources Commission ("NRC") is a 5-member board appointed by the Town Manager, with the approval of the Select Board, for 3-year, staggered terms. The NRC is responsible for the overall stewardship of the natural resources of the Town, and the establishment of Town environmental policy in conjunction with the Select Board and Town Meeting. The Natural Resources Commission acts as Conservation Commission in all matters delegated by Massachusetts General Law or Town bylaw.

To receive the proper authorization to perform the tree removals Mr. Bucci is required to submit appropriate documentation and applications to the NRC, including a Request for Determination of Applicability ("RDA").

The work Mr. Bucci is proposing falls under the classification:

> Single family house on a lot recorded on or before 8/1/96

Assignment

The scope of this project is to evaluate the trees that Mr. Bucci is proposing for removal, assess risk of the trees as well as the trees impact on the property and present the findings in this report as well as, to assist in the completion of the appropriate documentation.

Limits of Assignment

The recommendations and conclusions provided in this report are based on visual observations only. No examinations of the tree's interiors were taken nor were and soil or plant tissue taken and submitted for laboratory testing.

Purpose and Use of Report

The purpose of this report is to provide information regarding the trees Mr. Bucci is proposing to remove from his property. The report includes observation about tree risk as well as additional impact on the property. This report is to accompany the RDA submission as supporting documentation.

The report is the property of Mr. Vanni Bucci and to be used and shared as she sees fit.

Observations

I inspected the 7 trees that Mr. Bucci proposes removing.

Tree #	Species	DBH in Inches	Height in Feet
1	White pine	32	78
2	White pine	10	75
3	White pine	23	73
4	White pine	11	72
5	American elm (dead)	8	35
6	White pine	26	79
7	White pine	35	89

Discussion

The area surrounding the dwelling at 362 Border Road, Concord, MA is quite wooded. The selective removal of the high-risk trees will not have a significant effect on integrity of the landscape.

When the lot was cleared to build the house the dynamic of the trees changed. Trees that were on the interior of a wooded lot now became the trees on the edge of the forest. This exposes the trees to forces that they have not become accustomed to. This is evident, especially in the white pines. They are tall and relatively narrow with only foliage in the upper most branches. This is a result of them growing fast to break through the canopy and get to the sunlight. Now the trees are exposed to winds and are susceptible to breakage due to uneven distribution of forces. White pines are shallow rooted and with exposure to wind forced they have the potential to uproot, as well. This situation is exacerbated by the fact that al the trees are on a slope and erosion is weakening the roots ability to anchor the trees.

Significant defects are present in some of the trees as well. Multiple stems, with included bark is an inherent weak point and a potential failure point. Decay at the root system is also a major concern.

Tree Risk - 362 Border Rd, Concord, MA																							
Tree #	Species	DBH	Height	Target	Likelihood												Consequesnces				Risk Rating (from Matrix 2)			
					Failure				Impact				Failure & Impact(from Matrix 1)											
					Improbaable	Possible	Probable	Imminent	Very Low	Low	Medium	High	Unlikely	Somewhat Likely	Likely	Very Likely	Negligable	Minor	Significant	Severe	Low	Moderate	High	Extreme
1	White pine	32	78	House/People			x					x			x					x			x	
2	White pine	10	75	House/People			x					x			x				x				x	
3	White pine	23	73	House/People			x					x			x				x				x	
4	White pine	11	72	House/People			x					x			x				x				x	
5	American elm	8	35	House/People			x					x			x					x			x	
6	White pine	26	79	House/People			x	x				x				x			x				x	
7	White pine	35	89	House/People			x					x			x					x			x	

Matrix 1 - Likelihood Matrix				
	Likelihood of Striking a Target			
Likelihood of Failure	Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat Likely	Likely	Very Likely
Probable	Unlikely	Unlikely	Somewhat Likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat Likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2 - Risk Rating Matrix				
	Consequences of Failure			
Likelihoof of Failure & Impact (From Matrix 1)	Negligible	Monor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat Likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

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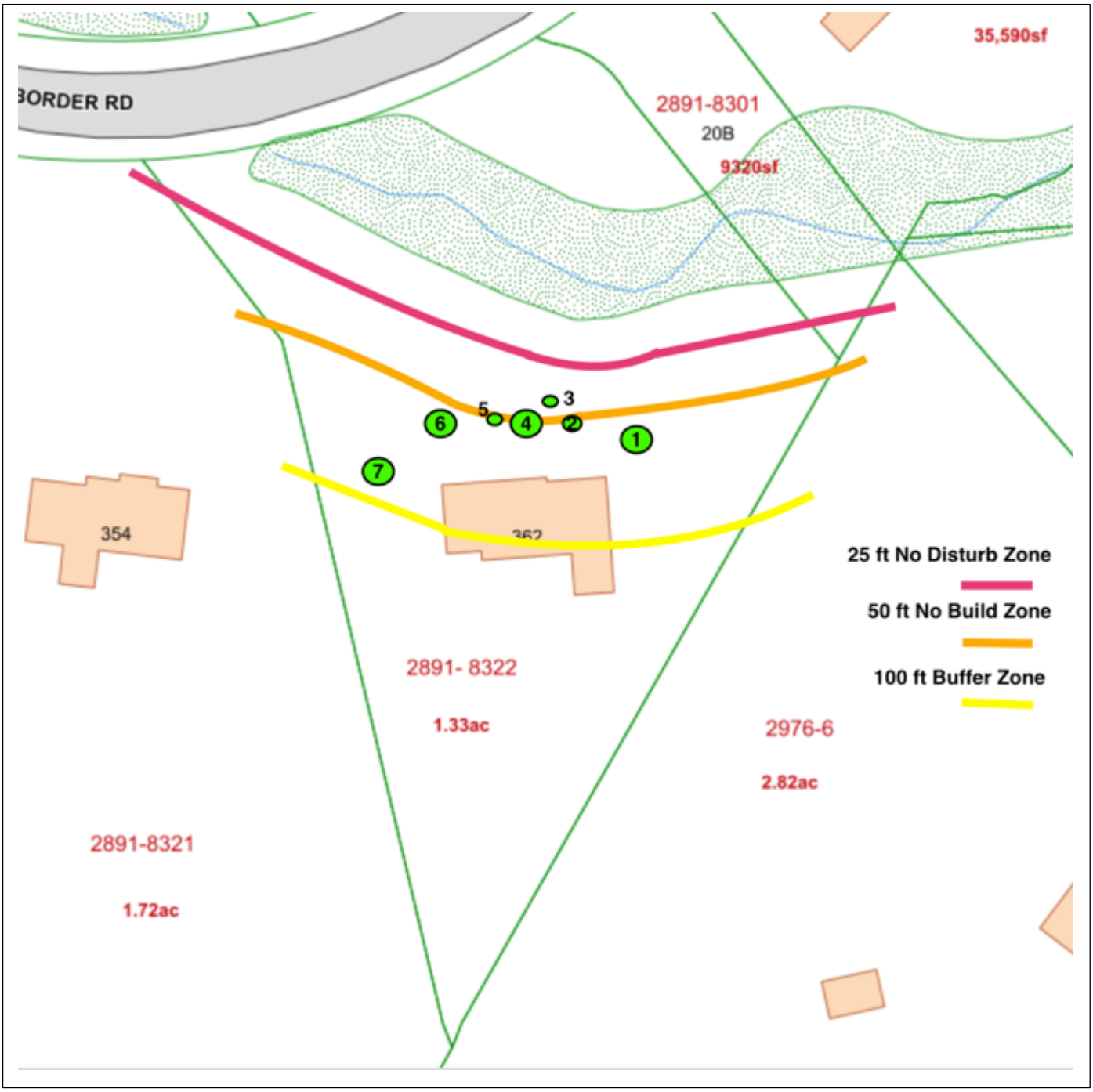
* The ISA Tree Risk Assessment process, used by a certified arborist, employs a systematic approach to evaluate all parts of a tree and determine if the tree has a likelihood of failure and if so if there is a potential target if the tree fails. Best practices and industry accepted standards are used to assess the trees and while any tree can fail at any time, the most responsible conclusions are determined. This information is compiled using the ISA Tree Risk Assessment process and a determination of risk is reached.

Site Plan


BORDER RD
35,590sf
2891-8301
20B
9320sf
3
5
6
4
2
1
7
354
362
25 ft No Disturb Zone
50 ft No Build Zone
100 ft Buffer Zone
2891- 8322
1.33ac
2976-6
2.82ac
2891-8321
1.72ac

Town GIS Map

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Alternative Analysis for Altering Upland Resource Area

As this RDA is requesting permission to remove trees from the site alternative options are quite limited.

Option 1 – Do not remove the trees.
This option in not practical because it does not remove the risk of tree failure.

Option 2 – Remove the trees and implement mitigation to limit impact to upland resource area.
This is the only viable option to reduce the risk of tree failure and damage to people and property while maintaining the integrity of the protected wetlands.

Mitigation Plan

To mitigate removal of trees the following native species will be planted to replace these trees. This will help preserve the area to its condition prior to the removal of the trees.

Latin Name	Common Name	Size	# of units	Benefits
Amelanchier canadensis	Shadblow Serviceberry	10 gal	6	Produce berries for birds
Juniperus virginiana	Eastern red cedar	6-7′	4	Provide shade and screening
Kalmia latifolia	Mountain laurel	3-4′	4	Favorable to pollinators

The selection of plantings will help preserve the area, benefit wildlife, and will not present similar concerns in the near future.

The replacement plantings are to be installed on the embankment show below. This will also assist in erosion control.

Conclusion

It is my professional opinion that all the trees assessed in this report meet the criteria set forth by the NRC and should be removed.

All the trees pose a potential risk to the property and residents.

The buffer zone is heavily wooded, and the removal of the proposed trees and the mitigation plan in place, will not negatively impact the integrity and benefits of the buffer zone.

These conclusions were arrived at are based on my training, education, observations and professional experience.

Recommendations

I recommend the removal of all the trees evaluated and discussed in the report.

Glossary of Terms

Absorbing Roots	Fine, fibrous roots that take up water and minerals; most of them are within the top 12 inches of soil
Branch Union	The structural union of a lateral branch to the tree stem.
Caliper	Is measured approximately 6-12" from the root collar. Caliper is an American Nursery Standard measurement. Synonym for trunk diameter used to measure the size of nursery stock; by convention, measured 6" above the ground.
Canopy	The part of the crown composed of leaves and small twigs.
Certified Arborist	A professional arborist possessing current certification issued by the Massachusetts Arborists Association (MAA) and/or the International Society of Arboriculture (ISA)
Co-dominant	equal in size and relative importance usually associated with either the trunk/stems or scaffold limbs/ branches in the crown.
Crown	The upper part of a tree, measured from the lowest branch, including all the branches and foliage
DBH	Stands for Diameter Breast Height. The diameter of a tree measured at 4.5 feet above the ground.
Drip-line	Perimeter of the area under a tree including the branches and leaves
Establishment	The process of a tree becoming acclimated to a new environment, usually correlating the new root development that can sustain normal biological functions of the tree
LCR	Live Crown Ratio (LCR) is the percentage of foliar growth compared the the height of the tree. Lower LCR result in higher stresses to the trunk.
Pruning	Systematic removal of branches of a plant usually a woody perennial
Restoration Program	A plan of maintenance and monitoring of trees to maximize survival or recovery rate of damaged or newly planted trees
Root Collar	Area at the base of the tree where the roots and the stem merge
Soil Compaction	Compression of the soil resulting in a reduction of the total air or pore space
Stress	Any change in environment conditions that produce a less than ideal plant response

Assumptions and Limited Conditions

1. It is assumed that any property is not in violation of any applicable codes, ordinances, Statutes or other governmental regulations.
2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
4. Unless required by law, otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant.
5. Unless required by law , neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant-particularly as to value conclusions, identity of the consultant , or any reference to any professional society or institute or to any initialed designation conferred upon the consultant as stated in his qualifications.
6. This report expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
7. Sketches, drawings, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise. The reproduction of any information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is for the express purpose of coordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by Carl A. Cathcart *A Plant Health Care Consultant* as to the sufficiency or accuracy of said information.
8. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring unless otherwise specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.
9. Loss or alteration of any part of this report invalidates the entire report.

Certification of Performance

Plant Healthcare Consultants certify that:

1. We have personally inspected the tree and property referred to in this report and have stated our findings accurately.

2. We have no current or prospective interest in the trees or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.

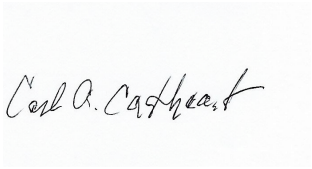
3. The analysis, opinions and conclusions stated herein are our own and are based on current scientific procedures and facts.

4. Our analysis, opinions and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.

5. No one provided significant professional assistance to us, except as indicated within the report.

6. Our compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party or upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

We further certify that Plant Healthcare Consultants is a member in good standing of the Massachusetts Arborist Association, American Society of Consulting Arborists, the International Society of Arboriculture and Massachusetts Tree Wardens and Foresters Association. We have been involved in the field of Arboriculture for over 60 years



Carl A. Cathcart
A.S.C.A. Registered Consulting Arborist RCA #606
Massachusetts Certified Arborist #1114
International Society of Arboriculture #WE-0716A
ISA Tree Risk Assessment Qualified

Daniel E. Cathcart
American Society of Consulting Arborists
Massachusetts Certified Arborist #41801
ISA Board Certified Master Arborist #TX-1357B
ISA Tree Risk Assessment Qualified
Massachusetts Qualified Tree Warden #1097